

BOROUGH



OF KENDAL.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE

YEAR ENDING DECEMBER 31st, 1914

W. BARON COCKILL, M.D., D.P.H.,

MEDICAL OFFICER OF HEALTH FOR THE COMBINED
DISTRICTS OF WESTMORLAND.

KENDAL :

PRINTED BY TITUS WILSON, HIGHGATE.

1915

To the Mayor, Aldermen and Councillors of the Borough of Kendal.

GENTLEMEN,

I have the honour to submit to you my Annual Report as Medical Officer of Health for your district. On the death of Dr. Craven, on May 17th, I took over the work as Acting Medical Officer till October 1st, after which date you were good enough to appoint me as your Medical Officer. I regret that the outbreak of war prevented my taking up my ordinary duties, as I was called away for military service. Dr. Henderson, the County Medical Officer of Health kindly undertook to superintend the administration of my work and I secured the services of Dr. MacIlraith to work under his direction. This arrangement appears to have worked well.

I have the honour to be, Sirs,

Your obedient servant,

WM. BARON COCKILL.

KENDAL, *February 3rd*, 1915.

Year.	Births.	Rate per 1000.	Deaths.		Deaths under 1 year per 1000 registered births.
			Under 1 year.	Over 1 and under 5 years.	
1861	428	35.5	60	..	140
1862	402	32.9	56	..	139
1863	431	34.9	61	..	141
1864	443	35.5	50	..	113
1865	466	36.9	57	..	122
1866	466	36.9	68	..	146
1867	439	34.0	65	..	148
1868	468	35.8	40	..	85
1869	487	36.9	62	..	127
1870	438	32.8	73	..	166
1871	505	37.5	53	..	105
1872	462	33.9	61	..	132
1873	480	34.9	64	..	134
1874	496	35.7	66	54	134
1875	429	31.6	53	33	123
1876	483	34.2	67	20	138
1877	432	31.8	58	28	134
1878	506	37.1	71	40	140
1879	428	30.1	49	22	114
1880	484	33.8	56	93	113
1881	425	31.0	48	38	113
1882	457	33.3	61	34	135
1883	491	35.7	60	20	122
1884	462	33.4	57	30	123
1885	440	31.8	59	40	134
1886	422	30.6	54	22	127
1887	441	31.9	62	19	140
1888	405	28.9	41	29	101
1889	476	34.0	70	37	147
1890	368	25.5	57	28	154
1891	449	31.1	65	21	144
1892	415	28.5	50	31	120
1893	429	29.2	56	26	130
1894	387	26.3	50	17	129
1895	422	28.5	70	33	165
1896	392	26.4	38	19	96
1897	378	25.3	60	23	158
1898	393	26.2	48	31	122
1899	345	24.2	37	12	107
1900	353	24.8	36	17	101
1901	324	22.8	45	22	138
1902	331	23.3	34	15	102
1903	332	23.4	41	27	123
1904	371	26.2	36	15	97
1905	307	21.7	36	11	117
1906	305	21.7	35	15	106
1907	318	22.5	24	8	75
1908	287	20.3	39	15	135
1909	280	19.8	22	10	78
1910	300	21.2	31	11	103
1911	297	21.1	32	11	107
1912	319	22.73	25	11	79
1913	291	20.73	46	23	158
1914	294	20.95	18	11	61

BOROUGH OF KENDAL.—1914.

Table of Death-rates from All Causes, from Phthisis and Infectious Diseases, since the passing of the Registration Act, 1837. This Tabulation was begun by the late Dr. David Page.

Year.	Estimated Population, June 30th.	Deaths from			Annual Rate of Mortality per 1000 from						Percentage to total Deaths from		Deaths from									Meteorology.	
		All Causes.	Phthisis (Consumption).	Seven principal Zymotic Diseases.	All causes	Corrected for age and Sex distribution.	Phthisis.	Seven principal Zymotic Diseases.	Phthisis.	Seven principal Zymotic Diseases.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	Typhus Fever.	Typhoid Fever or Enteric Fever.	Other Fevers.	Diarrhoea and Dysentery.	Mean Temperature of the Air.	Rainfall in Inches.		
1838	11800	339	68	54	28.7	..	5.8	4.0	20.0	15.9	35	..	..	..	7	..	..	..	11	1	44.81	45.739
1839	11800	414	51	149	35.1	..	4.3	12.6	12.3	36.0	19	..	..	..	..	..	..	..	20	2	46.09	57.905
1840	11800	343	56	83	29.1	..	4.7	7.0	16.3	24.2	7	34	16	..	..	..	..	11	2	46.03	48.227	
1838-40		365.3	58.3	95.3	31		4.9	7.9	16.2	25.4	20.3	11.3	37.6	..	..	5	5.3	..	14	1.7	45.643	50.644
1841	11800	264	48	22	22.4	..	4.1	1.9	18.1	8.3	..	..	..	..	14	2	..	..	1	1	46.17	53.854
1842	11800	268	47	34	22.8	..	4.0	2.9	17.5	12.7	..	..	..	..	..	..	..	..	..	..	47.01	48.072
1843	11800	286	64	26	24.2	..	5.4	2.2	22.0	9	..	..	..	..	..	..	..	..	5	5	46.86	56.307
1844	11800	309	37	35	26.2	..	3.0	2.9	12.0	17.3	..	22	..	..	..	..	..	..	4	4	45.58	43.012
1845	11800	336	52	53	28.5	..	4.4	4.5	15.5	15.7	37	..	..	..	..	6	..	..	4	3	45.47	53.346
1841-45		292.6	49.6	34	24.8		4.2	2.9	17.0	11.4	7.4	5.4	2.4	..	2.8	8.8	..	..	4.6	2.6	46.218	50.918
1846	11800	427	56	99	36.2	..	4.7	8.4	13.1	23.2	7	3	23	..	1	..	..	..	11	11	48.44	52.365
1847	11800	370	57	73	31.4	..	4.8	6.2	15.4	19.7	..	..	..	..	..	16	..	..	5	5	46.67	52.197
1848	11800	340	53	26	28.8	..	4.5	2.4	15.5	8.2	..	9	1	..	..	10	..	..	2	4	46.32	56.314
1849	11800	276	33	30	23.4	..	2.8	1.3	10.4	6.7	..	..	..	..	..	5	..	..	8	7	46.62	48.068
1850	11800	239	25	16	20.2	..	2.1	1.3	10.4	6.7	..	..	..	..	..	6	..	..	3	2	46.64	49.576
1846-50		330.4	44.8	69.2	28		3.8	4.2	13.2	13.7	1.4	2.8	14.2	..	1.6	8.8	..	..	6.4	5.8	46.938	51.704
1851	11800	310	42	57	26.2	..	3.5	4.8	13.5	18.3	..	..	6	35	..	5	..	..	4	7	46.35	47.561
1852	11900	283	27	62	23.8	..	2.2	5.2	9.5	21.9	1	..	..	..	..	9	..	..	2	6	47.55	65.354
1853	11900	250	38	30	21	..	3.2	2.5	15.2	12.0	..	..	..	..	..	5	..	..	3	5	45.56	39.455
1854	12150	243	37	20	20	..	3.1	1.7	11.1	8.2	9	..	..	3	..	11	..	..	3	2	46.68	46.133
1855	12000	259	29	52	21.6	..	2.4	4.3	11.2	20.1	1	34	3	3	..	11	..	..	1	2	45.98	34.54
1851-55		269	34.6	44.2	22.5		2.9	3.7	12.1	16.1	2.4	8	18	..	2.6	6.2	..	2.4	4.6	46.42	46.608		
1856	12000	235	36	13	19.6	..	3.0	1.0	15.3	5.5	..	..	7	..	..	4	..	1	..	..	48.054	39.482
1857	12000	230	33	15	19.2	..	2.7	1.2	14.3	6.5	..	..	2	..	..	6	..	2	..	..	49.799	38.501
1858	12050	259	34	37	21.5	..	2.8	3.1	13.1	14.2	5	2	1	..	9	10	2	6	..	..	49.172	40.226
1859	12050	298	41	57	24.7	..	3.4	4.7	13.7	19.1	3	32	1	..	..	9	11	..	1	3	48.47	48.29
1860	12050	234	32	6	19.4	..	2.6	.5	13.6	2.5	..	..	..	..	3	2	..	..	..	..	45.903	57.004
1856-60		251.2	35.2	25.6	20.8		2.9	2.1	1.4	9.5	1.6	7.4	2	..	4.2	6.6	1	1.8	1	1	48.079	44.710	
1861	12070	239	22	17	19.8	..	1.8	1.4	9.2	7.1	..	..	1	..	2	1	..	2	4	4	47.82	60.697
1862	12200	325	35	63	26.6	..	2.9	5.2	10.8	19.4	..	..	..	46	..	7	..	..	1	2	47.70	54.407
1863	12350	257	30	23	20.8	..	2.3	1.9	11.7	8.9	..	..	..	9	..	6	..	..	2	2	48.357	54.919
1864	12500	255	40	10	20.4	..	3.2	.8	15.7	3.9	1	6	1	..	1	..	2	..	5	5	46.865	47.571	
1865	12600	307	36	33	24.3	..	2.8	2.6	11.7	10.7	..	..	..	1	..	7	..	..	13	13	48.294	42.669
1861-65		276.6	32.6	29.2	22.4		2.6	2.4	11.8	10	2	3.2	11.2	2	3.4	3	8	2	5.2	5.2	47.807	52.052	
1866	12900	269	38	28	21	..	3.0	2.2	14.1	10.4	..	..	..	..	8	5	3	3	4	5	48.125	60.393
1867	12900	322	29	74	25	..	2.2	5.7	9	23	..	18	47	..	..	1	..	..	3	3	47.277	47.305
1868	13100	261	36	34	19.9	..	2.0	1.6	13.8	13	..	..	15	..	..	..	..	..	11	11	49.077	52.745
1869	13200	277	37	11	20.9	..	2.8	.8	13.3	4	..	20	1	..	12	..	2	2	3	3	47.508	55.498	
1870	13400	337	49	47	25.2	..	3.7	3.5	14.5	13.9	..	..	..	1	1	..	2	1	10	10	48.32	43.09
1866-70		293.2	37.8	38.8	22.4		2.9	2.9	12.9	12.8	..	9.4	13.2	4	4.4	1.8	1.8	1.4	6.4	6.4	48.061	51.806	
1871	13453	263	37	13	19.5	..	2.7	.9	14.1	4.9	..	..	..	..	5	..	2	2	4	4	47.81	50.245
1872	13477	260	24	27	19.4	..	1.7	.0	9.2	10.4	2	..	1	..	12	..	7	1	4	4	49.81	69.178	
1873	13502	263	29	13	19.4	..	2.1	1.0	10.6	4.9	..	..	..	..	3	..	..	1	5	5	48.322	49.365
1874	13527	302	22	42	22.3	..	1.6	3.1	7.3	13.9	..	17	6	..	6	..	5	..	2	2	47.98	55.105	
1875	13551	272	32	15	20.0	..	2.3	1.1	11.7	5.5	..	..	1	..	7	..	1	..	4	4	48.645	46.22
1871-75		272	28.8	22.0	20.3		2.1	1.6	10.5	7.9	4	3.6	1.4	2	6.6	..	3.4	1.2	3.4	3.4	48.513	54.022	
1876	13577	259	17	14	19.0	..	1.2	1.0	6.5	5.4	4	..	..	2	..	..	2	..	6	6	48.4	

NOTES TO ACCOMPANY THE BOROUGH MORTALITY TABLE.

*From all Causes, Phthisis, and Infectious Diseases, since the passing of the
Registration Act, 1837.*

SMALLPOX.

1.—*Epidemic* in 1838-39. The death of a child aged 5 years occurred on the 19th January, in Stricklandgate; but the outbreak would appear to have commenced in October, when the death of an infant, six months old, was recorded on the 7th of that month in Allhallows Lane, and to have continued until March, 1839, the last death being on March 10th of a man aged 40, residing in Branthwaite Brow. Of the 54 deaths, 16 were under 1 year, 18 between 1 and 5 years, 17 between 5 and 20 years, 3 above 20 years.

2.—*Epidemic* in 1845-46. A child aged 5 years died on February 3rd in Stricklandgate, and two other deaths occurred in March, but the chief fatality occurred in the months of November and December, and the last death on the 3rd of June, 1846. Of the 44 deaths, 8 were under 1 year, 19 between 1 and 5 years, 7 between 5 and 20 years, 10 of 20 years and upwards.

3.—Small outbreak in 1888, commencing with importation of the disease from Lancashire and Yorkshire, where it was epidemic.

4.—Small outbreaks in 1893, 1902-3, and 1905.

MEASLES.

Epidemic in 1840, 1844, 1855, 1859, 1867, 1870, 1874, 1877, 1880, 1884, 1888, 1889, 1892, 1895, 1898, 1903 and 1912.

SCARLET FEVER.

1.—*Epidemic* in 1839-40. It commenced in May, 1839, reached its height in the last week of October and the beginning of November, and subsided in February, 1840. Of the 113 deaths, 87 were below 5 years, 23 between 5 and 10 years, 3 between 10 and 20 years.

2.—*Epidemic* in 1846-47, 1851-52, 1862-63, 1867-68, and 1880. (The building of an infectious diseases hospital for the Borough was determined on after the epidemic of 1880, and the Sanatorium was first used in September, 1882, when scarlet fever patients were admitted.)

3.—An outbreak in 1893, but of a mild type. Mortality, four.

4.—An outbreak in 1894, again of a mild type. Commenced in the first week in July, attained its height in the week ending 13th October (22 cases notified in that week), and gradually diminished, seven cases only being notified in the last fortnight of the year. Mortality, five.

5.—An outbreak in 1900. 92 known cases, of which 88 were isolated in the Sanatorium. Mortality, two.

6.—An outbreak in 1901, which commenced in the middle of November, continued through 1902 and into 1903; three cases only were notified during the last four-and-a-half months of the year 1903. Mortality, twelve in 1902 and 1903.

7.—An outbreak in 1904, very similar to that in 1894, but more extensive. There were a number of cases in the first five months of the year, but in the third week in June the outbreak became severe; attained its highest point in the second week in October, and by the end of November had diminished to small proportions. Mortality, four.

DIPHTHERIA.

The absence of any deaths certified from this disease before the year 1861, may be due to such deaths having been included under the common appellation of Croup.

1.—*Epidemic* in first two months of 1888, during and after a dense fog which hung over the town from January 8th to 20th.

WHOOPING-COUGH.

High mortalities in the years 1841, 1853, 1858-59, 1862-63, 1870, 1872, 1885, 1903, 1908, 1913. The prevalence of this disease in 1885 was during the last eight months of the year. The 11 deaths were all of children under five years of age, as also were the three deaths in 1886, and two deaths in 1887. All in 1908 were under two years. In 1913 the disease occurred during the first six months of the year: there were 17 deaths, 14 of which were in children under two years of age.

FEVER.

1.—This term includes all forms of continued fever. The death-rate was almost annually heavy down to 1860; since that date there has been a very perceptible decline (Waterworks Company in 1849; Main Sewage Works completed by the end of 1873). As typhoid or enteric fever was not distinguished from typhus fever until 1840-41, and not generally in England before 1851, most of the deaths appearing under the column of typhus-fever may be presumed to have been typhoid or enteric fever. The first return of death from this latter disease was in 1856, and no return of typhus-fever has been made since 1868. The death-rate under typhus-fever was annually constant from 1839 to 1863; and from 1868, since when no such return has been made. The mortality from enteric-fever has been continuous till 1904, except in the years 1877, 1879, 1885, 1892, 1900, 1901, and 1902. There were two deaths in 1911.

The *constant prevalence* of fever was greatly accentuated in the years 1839-40, 1842-43, 1846-47, 1849, and 1858. The absence of mortality under records "other fevers" since 1873, tends to the belief that such returns formerly should have been made as of enteric-fever. *The decrease*

of mortality from fever (including typhus, enteric, and others) may be gathered from the following table, which shows the number of deaths from fever in each of fifteen periods of five years :—

Period of years	..	1839-40	1841-45	1846-50	1851-55	1856-60		
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>		
Mortality	..	58	67	117	43	47		
Period of years	..	1861-65	1866-70	1871-75	1876-80	1881-85		
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>		
Mortality	..	29	25	23	14	29		
Period of years		1896-1900	1901-05	1906-10	1911	1912	1913	1914
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Mortality		5	3	0	2	0	0	1

2.—From January to April, 1884, inclusive, there was a serious outbreak of enteric-fever, affecting solely the north end of the town, due apparently to a curious combination of meteorological circumstances, with an inadequate ventilation of the main sewer in that district, and individual instances of faulty house-drain connections.

3.—A considerable outbreak in 1893, mainly between the middle of August and the middle of October, following a long period of exceptionally dry weather, during which the town was supplied by the Water Company with water from the river Mint.

4.—Ten cases in June-July, 1911, all of which, with one exception, resided within about 110 yards of each other. Hot weather prevalent, one surface-water grate found with excrement on it, and another defectively connected to the sewer, both within the area attacked by the disease.

DIARRHŒA.

An almost constant small mortality.

Exceptional. 1.—In 1846, during fatal epidemic of so-called “typhus-fever.”

2.—In 1865, 1868, 1870, and in 1884, during exceptional heat in July and August. In 1884 the exceptional heat continued into September, and was accompanied by mortality.

3.—No diarrhœa mortality in the year 1888, the first time in twenty-eight consecutive years.

4.—Diarrhœa was prevalent in August and September, 1893, hot weather with showers following a very long period of drought. Water supply of the town was temporarily derived from the river Mint.

5.—In 1912 and subsequently the heading “diarrhœa and dysentery” includes diarrhœa and enteritis under two years of age only.

CHOLERA.

No registered return. The last epidemic in this county was during 1831-32, and therefore before the passing of the Registration Act.

BOROUGH OF KENDAL

*Annual Report of the Medical Officer of Health for the
Year ending December 31st, 1914.*

Area	2,622 acres.
Population (census 1911)	14,033
Inhabited Houses	3,328
Average population per house	4.21
Total families or separate occupiers	3,263

CENSUS AND POPULATION.

The estimated population last year was 14,033, which was the census return for 1911. This figure has been retained for the present for the purpose of statistics. A considerable number of young men have left the town, on military service, and a still larger number have been drafted into the town for training purposes. Whilst some have stayed for two and three months, others have hardly been a month. The population has therefore been a very variable quantity.

BIRTHS ..	{ Males .. 153 {	Persons ..	294
	{ Females .. 141 }		
Annual Rate of Births per 1000 of the Population ..			20.95
DEATHS			177
Recorded Annual Rate of Deaths per 1000			12.61
Factor for correction of age and sex distribution, 1913 ..			.9415
Corrected for age and sex distribution			11.87
Excess of Registered Births over Deaths			117

GENERAL MORTALITY IN 1914.

The total number of deaths registered in the year 1914 was 177. This is after deducting the deaths of non-residents who died in Public Institutions within the Borough, and adding the deaths of those residents who died in public Institutions in other places. Estimating the population at 14,033, this is equal to a death-rate of 12.61 per 1000 of the population, or, corrected for age and sex distribution, 11.87 per 1000.

ZYMOTIC MORTALITY.

6 deaths occurred in this group, equal to a rate of 0.42 per 1000. A satisfactory condition.

MORTALITY FROM PHTHISIS.

The number of deaths due to phthisis was 8, or equal to a rate of .57 per 1000, exactly the same as last year.

ANALYSIS OF DEATH-RATE.

INFANT MORTALITY.

Of the total number of deaths, 18 or 10.2 per cent., were under one year.

The deaths of children under one year were 61 per 1000 births. This is the lowest death-rate yet recorded.

DEATHS OF INFANTS UNDER ONE YEAR, PER 1,000 BIRTHS.

1896-1900	1901-05	1906-10	1911	1912	1913	1914
117	115	99	107	79	158	61

CHILD MORTALITY.

Twenty-nine deaths, or 16.38 per cent. of the total deaths, were of children under five years of age, being at the rate of 2.06 per 1000 of the population.

DEATH-RATE UNDER FIVE YEARS PER 1000 OF THE POPULATION.

1896-1900	1901-05	1906-10	1911	1912	1913	1914
4.4	3.9	2.93	3.07	2.5	4.91	2.06

DEATH-RATE UNDER FIVE YEARS PER 1000 ESTIMATED TO BE LIVING AT THAT AGE PERIOD.

1891-95	1896-1900	1901-05	1906-10	1911	1912	1913	1914
47.1	40.2	37.1	27.7	34.07	28.52	54.67	22.98

The following table gives the number of deaths of children under one year and under five years respectively :—

Year.	No. of deaths under one year.			No. of deaths between one and five years.		
1881-85	mean 57.4	..	..	31.2
1886-90	mean 56.8	..	..	27
1891-95	mean 58.2	..	..	25.6
1896-1900	mean 43.4	..	..	20.4
1901-05	mean 38.4	..	..	18
1906-10	mean 30.2	..	..	11.8
1906	35	..	..	15
1907	24	..	..	8
1908	39	..	..	15
1909	22	..	..	10
1910	31	..	..	11
1911	32	..	..	11
1912	25	..	..	11
1913	46	..	..	23
1914	18	..	..	11

ADULT MORTALITY.

The number of deaths between 5 and 65 years of age was 73, being at the rate of 5.2 per 1000 of the population.

DEATH-RATE PER 1000 OF THE POPULATION ESTIMATED TO BE LIVING AT THAT AGE PERIOD.

1896-1900	1901-05	1906-10	1911	1912	1913	1914
<hr/> 6.6	<hr/> 6.9	<hr/> . 6.74	<hr/> 7.85	<hr/> 6.82	<hr/> 6.23	<hr/> 6.15

OLD-AGE MORTALITY.

The number of deaths of persons of 65 years of age and upwards was 75, being at the rate of 5.34 per 1000 of the total population.

DEATH-RATE PER 1000 OF THE POPULATION ESTIMATED TO BE LIVING AT THAT AGE PERIOD.

1893-95	1896-1900	1901-05	1906-10	1911	1912	1913	1914
<hr/> 88.5	<hr/> 89.5	<hr/> 96.3	<hr/> 94.37	<hr/> 94.6	<hr/> 82.5	<hr/> 83.7	<hr/> 82.5

The following table gives the Birth Rates, the Recorded Annual Death Rates per 1000 from all causes, and from the several Epidemic Diseases during the year 1914.

ANNUAL RATES PER 1000 LIVING.											
	Births. (1)	Deaths.		Enteric Fever. (4)	Small-pox. (5)	Measles. (6)	Scarlet Fever. (7)	Whooping Cough. (8)	Diph- theria. (9)	Diarrhoea and Enteritis (under 2 years). (10)	Deaths under one year per 1000 Births. (11)
		Crude. (2)	Corrected. (3)								
England and Wales ..	23·8	14·0	13·6	0·05	0·00	0·24	0·08	0·21	0·15	20·41	105
97 Great Towns ..	24·9	14·6	14·9	0·04	0·00	0·35	0·09	0·25	0·16	26·09	113
145 Smaller Towns ..	23·6	12·8	12·9	0·05	0·00	0·21	0·07	0·18	0·16	19·84	104
Rural England and Wales	21·9	13·3	12·2	0·05	0·00	0·12	0·06	0·17	0·14	12·64	93
County of Westmorland	18·05	12·46	11·03	0·00	0·00	0·00	0·00	0·21	0·03	0·02	72
Borough of Kendal ..	20·95	12·6	11·87	0·07	0·00	0·00	0·00	0·21	0·14	0·00	61
Rural District of South Westmorland ..	15·26	9·78	8·89	0·00	0·00	0·05	0·00	0·05	0·15	0·00	37

METEOROLOGY, with special Mortalities in parallel column. Observer, ROBERT RHODES, Esq., Kendal.

1914.	BAROMETER.				THERMOMETER.					Prevailing Wind.	RAINFALL.				DEATHS FROM									
	Highest Reading.	Day of Month.	Lowest Reading.	Day of Month.	Mean Reading.	inches.	°F	Highest Reading.	Day of Month.		Lowest Reading.	Day of Month.	Mean Reading.	°F	No. of days on which 32° or less has been registered.	inches.	Total.	inches.	Maximum fall registered in 24 hourly period by 5 inch gauge.	Day of Month.	No. of days on which or in. or more fell.	Phtthisis.	Zymotic Disease.	Nature of such Zymotic Disease.
January ..	30'45	13	29'35	6	29'90	47	5	23	1	36'38	12	S	5'43	1'05	24	19	0	1	Typhoid Fever					
February .	30'0	27	28'35	22	29'19	51	28	28	25	41'79	1	S	6'25	0'63	20	25	0	1	Diphtheria					
March ..	29'9	31	28'65	20	29'10	53	31	24	11	41'32	8	N	5'66	0'92	30	28	2	1	"					
April ..	30'30	15	29'15	7	29'85	73	21	30	15	48'40	2	S	1'43	0'34	4	12	0	..	"					
May ..	30'50	14	29'30	5	29'95	73	19	35	25	51'08	0	N	2'58	0'70	3	20	2	..	"					
June ..	30'50	3	29'60	21	29'91	80	18	38	1	58'36	0	SW	1'94	0'64	17	11	0	..	"					
July ..	30'15	10	28'55	20	29'66	88	22	41	4	61'59	0	S	4'01	1'01	16	17	1	..	"					
August ..	30'20	29	29'12	13	29'77	80	15	44	8	60'37	0	S	4'9	2'72	8	15	0	..	"					
September	30'30	29	29'25	17	29'91	75	3	32	22	54'37	1	NW	4'05	1'86	16	13	1	..	"					
October ..	30'25	1	29'40	28	29'87	63	4	38	29	49'96	0	N	2'11	0'89	25	17	1	1	Whooping Cough					
November	30'40	18	29'05	30	29'66	54	9	26	18	42'91	8	N	7'15	0'86	29	23	1	1	"					
December	30'0	24	28'65	14	29'35	52	1	24	25	39'00	9	SW	7'92	2'06	17	26	0	1	"					
Totals & Means	30'24	..	29'03	..	29'67	65'75	..	31'91	..	48'77	41		53'43	226	8	6						

BIRTH-RATE.

The total number of births registered was 294 against 291 in the previous year, and the birth-rate was therefore 20.95 per 1000 of the estimated population.

The births and birth-rates have been as follows :—

Year.						
1881-85	..	..	mean 455	..	..	32.8
1886-90	..	..	mean 422	..	..	29.6
1891-95	..	..	mean 420	..	..	29.2
1896-1900	..	..	mean 372	..	..	26.04
1901-05	..	..	mean 333	..	..	22.8
1906-10	..	..	mean 298	..	..	21.04
1911	..	..	297	..	..	21.16
1912	..	..	319	..	..	22.73
1913	..	..	291	..	..	20.73
1914	..	..	294	..	..	20.95

These figures show a slight increase in the birth-rate of the Borough during the year 1914 the births registered being 294 against an average of 297 in the five years ending 1913.

GENERAL MORTALITY.

After deducting the deaths of non-residents and adding those of residents who have died away from home, it is found that the net deaths of 1914 were 177. The crude death-rate of the Borough was, therefore, 12.61 per 1000 compared to 13.9 in England and Wales in 1914 and 9.78 per 1000 in the Rural District of South Westmorland.

EPIDEMIC DISEASES.—The death-rate from these diseases shows a great improvement on last year, being .42 per 1000 as against 1.56 in 1913: this rate in the Rural District of South Westmorland was .31. Whooping cough caused three deaths and diphtheria two, and enteric fever one. The case of enteric fever was not attributable to local insanitary conditions, as far as can be ascertained, but most likely to infection through food, which came from away. There was no death from diarrhœa of the infantile type.

PHTHISIS MORTALITY.—The deaths were 8, similar to 1913, and the death-rate .57 per 1000 of the population, compared to 6 deaths and a rate of .31 per 1000 in the Rural District of South Westmorland. This is the lowest death-rate for phthisis yet recorded in the Borough.

INFANT MORTALITY.—The deaths under one year were 18, or at the rate of 61 per 1000 registered births.

CHILD MORTALITY.—There were 11 deaths between one and five years of age. This number is similar to that of 1910, 1911 and 1912. It has only twice been lower, viz., in 1907 when there were 8 deaths, and in 1909 when there were 10. The number of deaths in 1913 was 23.

ADULT MORTALITY.—The deaths between 5 and 65 years were 73.

OLD-AGE MORTALITY.—At 65 years of age and upwards there were 75 deaths; 42 per cent. of total deaths registered.

AGES AT AND CAUSES OF DEATH.—These are set out in Table III. of the Local Government Board, which appears on page 13. One death was uncertified. One fatal case of diarrhœa was of a chronic dysenteric type.

INFANTILE MORTALITY DURING THE YEAR.

Nett Deaths from stated causes at various Ages under 1 Year of Age.

CAUSE OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-3 months.	3-6 months.	6-9 months.	9-12 months.	Total Deaths under 1 year.
All causes—Certified ..	7	1	..	..	8	4	3	1	2	18
Uncertified ..	..	..	..	..	..	..	..	..	..	..
Whooping Cough .. ..	..	..	..	..	..	..	..	..	1	1
Bronchitis .. ..	..	..	..	..	..	1	2	1	1	5
Pneumonia (all forms) ..	..	..	..	..	..	1	..	..	..	1
Gastritis .. ..	..	1	..	..	1	..	..	..	..	1
Congenital Malformations ..	3	..	..	..	3	..	..	..	..	3
Premature Birth	4	..	..	..	4	..	1	..	..	5
Atrophy, Debility and Marasmus .. ..	..	..	..	..	..	1	..	..	..	1
Other Causes .. ..	..	..	..	..	..	1	..	..	..	1
All Causes	7	1	..	..	8	4	3	1	2	18

Nett Births in the year—legitimate, 277.
illegitimate, 17.

Nett Deaths in the year of—legitimate infants, 16.
illegitimate infants, 2.

INFECTIOUS DISEASES.

The cases notified to me were as shown in the following table :—

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.								TOTAL CASES RE- MOVED TO HOSPI- TAL.
	At all Ages.	At Ages—Years.							
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.	
Diphtheria (includ- ing Membranous croup)	10	..	4	2	3	1	..	..	9
Erysipelas	21	..	2	1	1	7	8	2	..
Scarlet Fever	18	..	7	7	2	2	..	..	14
Enteric Fever	6	..	1	2	1	1	1	..	5
Puerperal Fever	1	..	..	..	..	1	..	..	..
Ophthalmia Neon- atorum	2	2	..	..	..	..	..	..	..
Pulmonary Tuber- culosis	33	..	1	7	5	11	8	1	14
Other forms of Tuberculosis	3	..	2	..	..	..	1	..	..
Totals	94	2	17	19	12	23	18	3	42

NOTIFIED OR ASCERTAINED INFECTIOUS DISEASE.

Year.	Small-pox.	Scarlet Fever.	Diphtheria and Membranous Croup.	Enteric Fever.	Continued Fever.	Erysipelas.	Puerperal Fever.	Total.	Phthisis.
1890	0	10	10	22	1	13	0	56	..
1891	0	41	5	39	1	23	2	111	..
1892	0	32	2	29	5	26	2	96	..
1893	2	186	3	51	4	36	2	284	..
1894	0	236	10	10	1	50	4	311	..
1895	0	71	5	11	1	28	2	118	..
1896	0	8	6	6	1	23	1	45	..
1897	0	4	14	19	1	24	1	63	..
1898	0	8	21	18	1	20	1	69	..
1899	0	18	20	13	0	23	1	75	..
1900	0	93	3	6	0	23	0	125	16
1901	0	88	5	7	0	19	2	121	26
1902	8	258	7	7	1	23	1	305	27
1903	10	107	16	9	0	19	1	162	23
1904	0	399	11	9	0	17	0	436	17
1905	31	111	2	4	1	20	0	169	21
1906	0	23	6	1	0	19	1	50	17
1907	0	22	2	3	0	5	0	32	5
1908	0	88	9	2	0	14	0	113	9
1909	0	39	13	2	0	18	1	73	16
1910	0	75	8	1	0	21	0	105	21
1911	0	50	15	12	0	13	1	92*	17
1912	0	20	21	0	0	16	2	59	37
1913	0	20	17	0	0	16	1	56*	40
1914	0	18	10	6	0	21	1	58††	33

* Poliomyelitis, 1.

,, 2.

† Ophthalmic Neonatorum, 2.

‡ Other forms of Tuberculosis, 3.

HOSPITAL ISOLATION.

Persons resident in the Borough spent 1234 days in the Sanatorium whilst suffering from infectious diseases during the past year, and persons residing outside the Borough spent 3947 days in isolation there. Thirty-four per cent. of the patients were Borough cases.

Month.	PATIENTS ADMITTED.										Days' Residence.		Mean No. of patients in residence.
	Scarlet Fever.		Diphtheria.		Typhoid.		Erysipelas.		Total.				
	From Kendal.	From other districts.	From Kendal.	From other districts.	From Kendal.	From other districts.	From Kendal.	From other districts.	From Kendal.	From other districts.	From Kendal.	From other districts.	
In Sanatorium prior to January 1, 1914	3	1	3	9	..	..	..	..	6	10	..	..	..
January	1	2	..	21	..	..	..	..	1	23	149	563	22.96
February	2	2	1	8	..	..	..	..	3	10	76	651	26.03
March	2	6	1	1	..	..	..	..	3	7	103	739	27.16
April	1	5	..	..	2	..	..	..	3	5	111	427	17.93
May	1	..	..	2	1	..	..	1	2	3	141	272	13.31
June	2	4	1	..	..	..	..	..	3	4	111	209	10.7
July .. ..	..	2	..	1	..	1	..	..	..	4	74	229	9.77
August .. ..	..	..	2	1	..	..	..	..	2	1	31	199	7.4
September ..	1	1	1	1	..	..	..	..	2	2	97	53	5
October	1	..	..	5	1	..	..	..	2	5	81	119	6.41
November ..	2	5	1	0	1	..	..	1	4	6	93	195	9.6
December ..	1	5	..	0	..	1	..	..	1	6	165	291	14.7
Totals ..	14	32	7	40	5	2	..	2	26	76	1234	3947	14.9

As will be seen by the above table, the average number of patients in hospital per day has been 14.9 compared to an average of 11.84 in 1913, the lowest monthly average being 5 in the month of September. During the year patients have been received from Ambleside, Grange, and the Rural District of South Westmorland.

Year.	PATIENTS ADMITTED.												Mean No. of patients in resi- dence.
	Smallpox.		Diphtheria and Membranous Croup.		Erysipelas.		Scarlet Fever.		Enteric Fever.		Poliomyelitis.		
	From K'dal	From other d'st'cts	From K'dal	From other d'st'cts	From K'dal	From other d'st'cts	From K'dal	From other d'st'cts	From K'dal	From other d'st'cts	From K'dal	From other d'st'cts	
1882	9	..	..	..	..	..	..
1883	3	I	8	..	..	..	..
1884	I	..	3	..	..	..	..	..	26	..	..	..	..
1885	I	..	I	..	3	..	5	..	..	..	..
1886	4	..	4	..	..	..	..
1887	II	3	I	..	..	..	..
1888	5	..	I	..	..	..	23	3	8	..	..	..	..
1889	I	I	..	..	7	..	15	..	..	..	..
1890	8	..	4	I	..	..	..
1891	I	..	..	..	29	9	16	3	..	..	..
1892	2	..	..	26	5	5	3	..	..	..
1893	2	..	..	..	..	..	I30	6	2	..	..	..	..
1894	I40	I6	..	..	..	..	14'I
1895	2	..	..	..	62	20	I	I	..	..	12'I
1896	3	..	..	..	4	I6	3	5	..	..	5'4
1897	5	2	..	..	5	I5	I8	5	..	..	5'I
1898	9	..	..	I	II	6	9	3	..	..	4'4
1899	6	9	..	..	I6	I9	II	4	..	..	7'5
1900	89	2I	5	I	..	..	12'7
1901	I	9	..	..	77	3I	I	2	..	..	15'4
1902	8	..	2	2	..	..	237	56	3	I	..	..	41'4
1903	10	..	5	..	..	..	100	23	..	3	..	..	19'9
1904	2	I	..	..	314	23	..	..	..	..	38'I
1905	3I	..	..	I	..	..	94	72	3	I	..	..	22'7
1906	I	I	..	..	I6	22	I	..	..	..	7'2
1907	I	5	I	..	I5	I9	I	3	..	..	5'3
1908	4	5	..	..	8I	29	2	2	..	..	13'I
1909	9	3	..	..	37	48	I	I	..	..	13'86
1910	7	3I	..	..	70	41	..	..	..	..	16'7I
1911	7	I5	..	..	48	18	I2	3	..	..	13'02
1912	I4	10	2	..	20	69	..	..	..	..	11'83
1913	10	35	..	..	24	35	..	2	2	I	11'8I
1914	7	40	..	2	I4	32	5	2	..	..	14'9

INFECTIOUS DISEASES.

The known cases are enumerated in the Table on page 15. The returns for 1914 are good, the total notified cases being 58, including 21 erysipelas and one puerperal fever. The known cases of scarlet fever were only 18 and 14 of them were isolated in the Sanatorium. Of the 10 cases of diphtheria, 9 were treated in the Sanatorium. There were no known cases of scarlet fever in April or July. Otherwise it was fairly evenly distributed throughout the other months, except the end of May and beginning of June, which claimed 5 cases. The cases of diphtheria were also spread uniformly over ten years, but the two fatal cases occurred in February and March. The return of a few cases of enteric fever is not satisfactory: there were six such cases. One of these has already been referred to: of the remaining five, three occurred in one household: the general housing conditions were so bad that a closing order was made for this house and some neigh-

bouring ones. In addition to this the householder did not help to make things any more sanitary. Another case developed the disease in the County Hospital, amid surroundings which almost negative the possibility of any local infection. No cause could be found for the other case : the housing and sanitary conditions were quite good : the only addition that might have been beneficial was the addition of more light. Except for the one fatal case, all the others were of a very mild type and would probably have been overlooked, except for positive Widal reactions having been obtained.

PHTHISIS.

There were at the end of the year 104 known cases of phthisis. Several of these have been under observation for many years past, and a number of them are in quite good health, in fact five of the men have been accepted for service in the Army.

88 of these cases were visited periodically by the Health Visitor. 8 were under treatment at Meathop at the end of the year.

The ages of the persons suffering from phthisis are given below :—

					Males.	Females.		
Under 5 years	..	..	..	..	1	..	1	
5 to 10 „	..	..	..	..	5	..	6	
11 to 15 „	..	..	..	..	8	..	5	
16 to 20 „	..	..	..	..	10	..	6	
21 to 25 „	..	..	..	..	1	..	5	
26 to 30 „	..	..	..	..	4	..	8	
31 to 40 „	..	..	..	..	12	..	10	
41 to 50 „	..	..	..	..	9	..	4	
Over 50 „	..	..	..	..	6	..	3	
					—	—		
Total	..	..	..	..	56	..	48	
					—	—		

OCCUPATION OF MALES.

Clerks	..	..	..	4	Tobacco Worker	..	..	1
Boot Operatives	..	..	..	4	Insurance Agent	..	..	1
Mill Labourers	..	..	..	4	Currier	..	..	1
Railway Labourer	..	..	..	1	Errand Boys	..	..	2
Gardener	..	..	..	1	School	..	..	11
Draper	..	..	..	1	Enlisted	..	..	5
General Dealer	..	..	..	1	In Meathop	..	..	5
Chimney Sweep	..	..	..	1	No Occupation, or unable to			
Grocers	..	..	..	2	work	..	..	7
Engineer	..	..	..	1				
Plumber	..	..	..	1				
Painter	..	..	..	1				
Cabinet Maker	..	..	..	1				

OCCUPATION OF FEMALES.

Household	19	Bottle Washer	1
Boot Operatives	2	Tea Packer	1
Weavers	2	Errand Girl	1
Blouse Machinists	2	School	5
Shop Assistant	1	No Occupation, or unable to	
Tobacco Worker	1	work	9
Milliner	1	In Meathop	3

Number of visits made by Health Visitor, 367.

367 visits were made to known cases of phthisis. An After-care Committee has been formed under the control of the County Tuberculosis Officer. Members of the Committee visit patients after their return from Meathop and report on their condition to the Tuberculosis Officer and the Health Visitor. 275 visits were made by the lady visitors.

The Health Visitor was in attendance at the Tuberculosis Dispensary on 51 occasions.

TUBERCULOSIS.

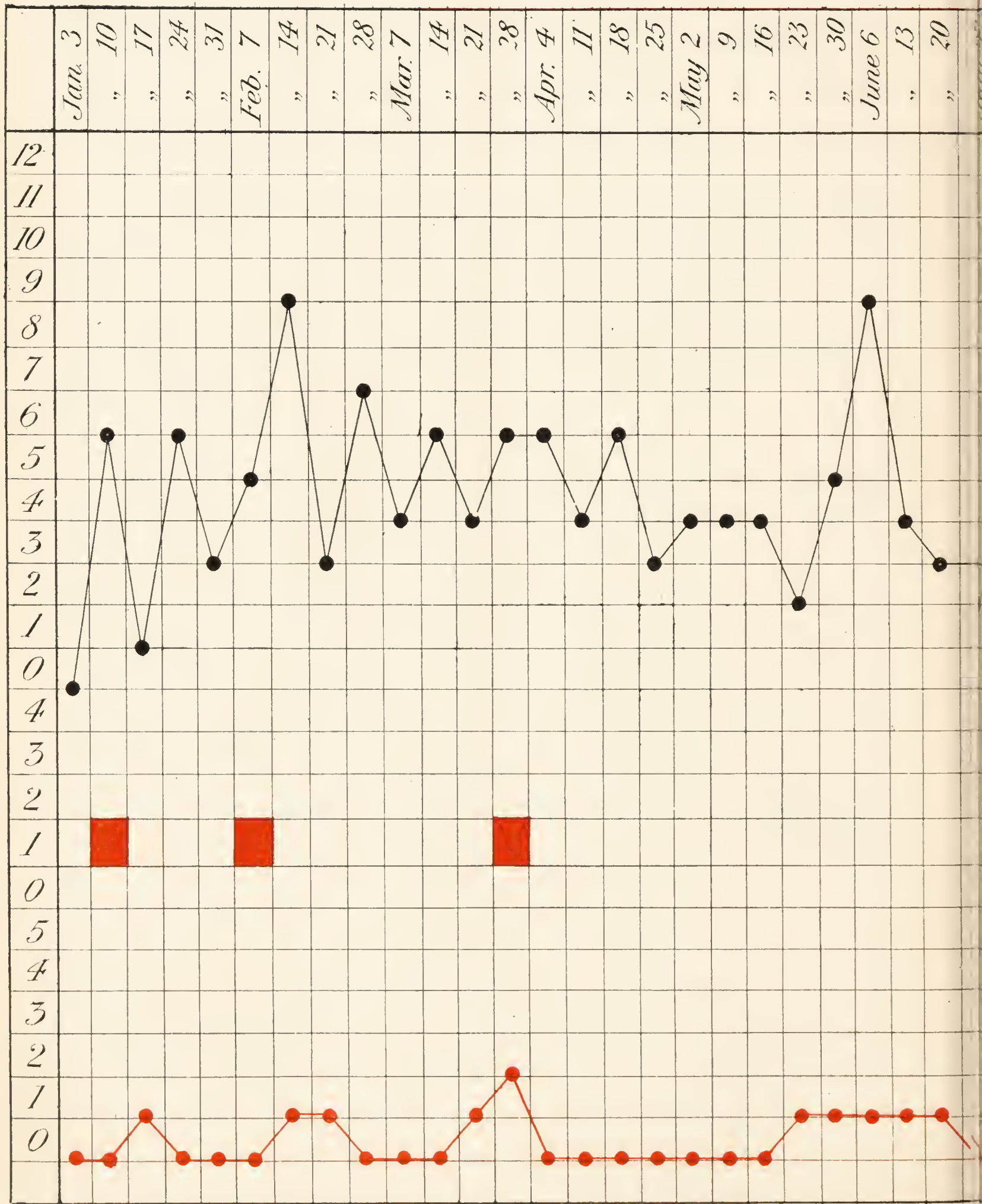
There were thirty-three cases of pulmonary tuberculosis notified during the year, and three cases of tuberculosis of other organs. There has been a slight diminution in number compared with 1913.

NOTIFICATION OF BIRTHS ACT, 1907.

This Act has been in operation during the last five years—the notifications being delivered at the office of the Sanitary Inspector, where the Health Visitor calls each morning. She is most assiduous in the performance of her work, and I believe the assistance and advice that she gives must be of service in promoting the health of the little ones. Below is a statement of the number of births reported in each month, the visits paid, and the observations made by the Health Visitor. She visits only those mothers whom she thinks would be glad to receive and might profit by her help.

BLACK LINE INDICATES TOTAL D
 RED SQUARE INDICATES ZYMOTI
 RED LINE INDICATES NOTIFICAT

(3 days.)

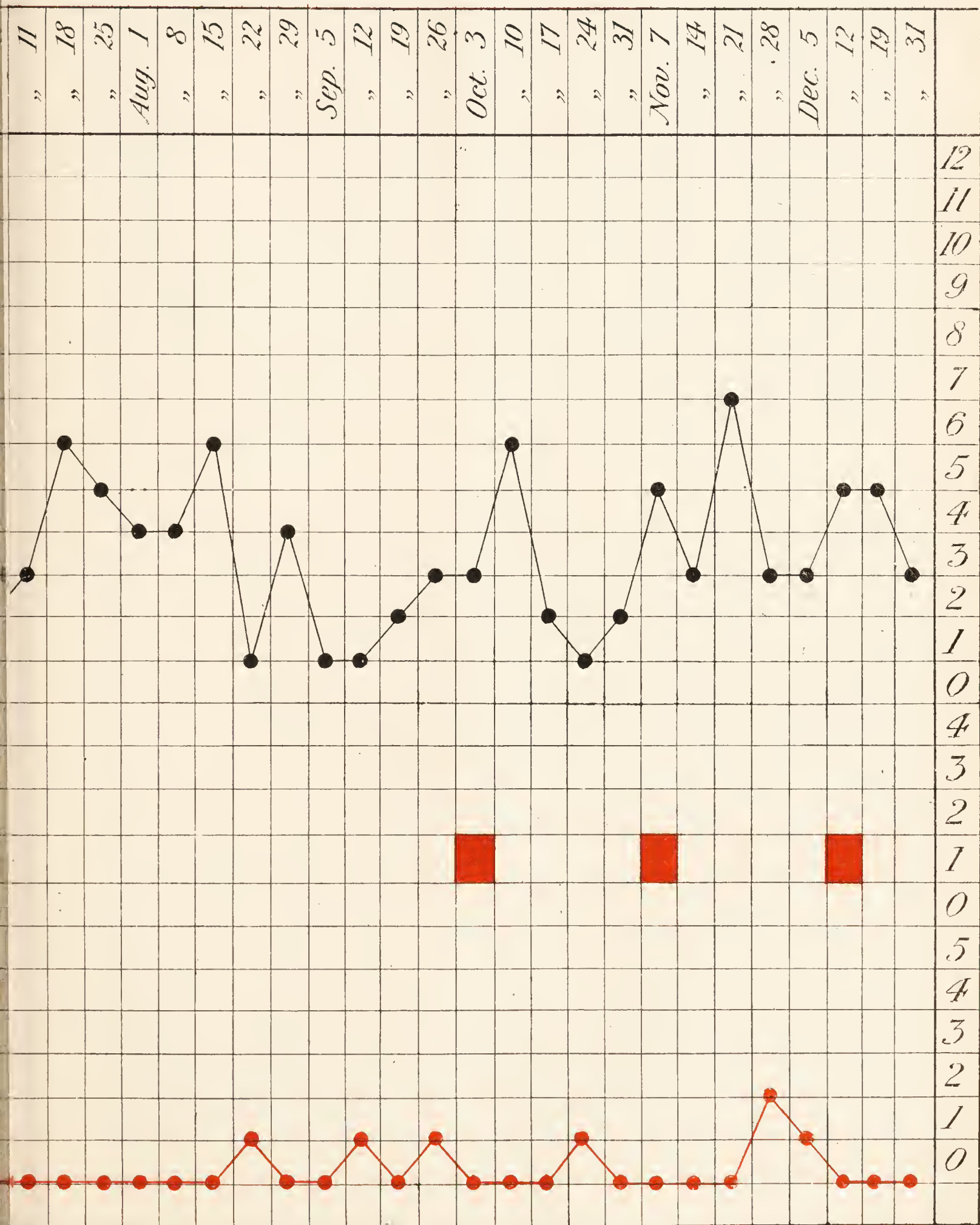


HS FROM ALL CAUSES.

DEATHS.

IN OF SCARLET FEVER IN EACH WEEK.

(12 days.)



NOTIFICATION OF BIRTHS.

RETURN FOR THE YEAR ENDING DECEMBER 31ST, 1913.

Month.	No. Notified.	Attended by		Born		Method of Feeding at first.			No. Visited.
		Doctor	Mid-wife	Living	Dead	Breast	Bottle	Not Ascertained	
January ..	31	17	14	29	2	18	2	11	20
February ..	23	13	10	22	1	16	..	7	16
March ..	29	17	12	26	3	20	2	7	22
April ..	27	15	12	25	2	14	2	11	18
May ..	29	16	13	28	1	21	3	5	24
June ..	23	14	9	20	3	14	..	9	15
July ..	28	14	14	28	..	19	8	1	27
August ..	28	14	14	28	..	19	..	9	20
September ..	18	13	5	17	1	11	3	4	14
October ..	21	13	8	21	..	9	3	9	13
November ..	21	15	6	21	..	14	3	4	17
December ..	24	19	5	21	3	12	3	6	17
Total ..	302	180	122	286	16	187	29	83	223

No. of visits made by Health Visitor, 1883.

HOUSING.

There has been a further disappearance this year of dilapidated and insanitary houses. No less than 25 houses have been done away with or closed. Eleven new houses have been erected by private enterprise. The Council have made a beginning towards the building of the 24 houses in Two Stiles Field, which was referred to in last year's report. There have been many difficulties in the way of rapid progress towards this, but four are now approaching completion and others are well on the way. Before many months are passed, it is to be hoped that the majority of these may be ready for habitation. There is a tendency, however, amongst many still to crowd too great a number of the family into one room, although there are other rooms available. This is not due by any means to the lack of beds and bedding, which would be a certain amount of excuse. There has been very considerable attention paid to this phase of the housing question during the year. The need of an individual for a minimum cubic space, and the subject of ventilation related to it is not sufficiently recognized. To ensure proper ventilation a small cubic space requires a rapidly changing current of air, or what is ordinarily known as a draught; when this occurs the usual plan is to cut off that current of air as an inconvenience. The result is close-smelling rooms and an atmosphere that is unfit to breathe. Here we find a potent contributory cause to the production of consumption. That the majority of people do not get enough fresh air is well known by the improvement so noticeable in the complexion

and general well-being of the recruits of our modern armies, who are getting more fresh air now than ever they had in their lives.

OFFENSIVE TRADES.

Under Section 112 of the Public Health Acts, 1875, as amended by Section 51 of the Public Health Amendment Acts, Bye-laws have been made with regard to Offensive Trades. There are eighteen such conducted within the Borough. The trades have been carried on in accordance with these Bye-laws and no instance of irregularity has been notified.

BILLETING.

A large number of troops have been quartered here for the purpose of training during the last five months. The military medical authorities have welcomed assistance from the local sanitary authorities, and Officers Commanding have afforded all the assistance in their power. All the billets have been visited, measured and scheduled. They have been found on the whole to be thoroughly clean and capable of good ventilation. In a few cases there was some overcrowding, but this was speedily remedied. The health of the troops has been excellent: there has been no epidemic disease amongst them. The competition amongst householders to be selected for billeting purposes has been such that this alone would tend to produce a high state of efficiency as regards sanitation, cooking and general comfort.

INFECTIOUS DISEASES.

It is very gratifying to find that there has been a marked decrease in most of the infectious diseases, except erysipelas, which is slightly higher. The zymotic death-rate has been proportionately low. The presence, however, of enteric fever is a blot on what would otherwise have been a good record. The phthisis death-rate is as low as ever it has been, and the notifications are less in number.

INFANT WELFARE.

From an infant death-rate of 158 per 1000 births in 1913, there has been a decided drop to 61 per 1000 in 1914. This is the lowest infantile death-rate yet recorded for the Borough. There has again been no death from infantile diarrhoea. Infants are now regularly visited, by the Health Visitor, wherever there seems to be likelihood of good. 1883 were paid by her last year.

In September a "Mothers' Welcome" was opened by a Committee of ladies, assisted by a medical man and the Health Visitor: 34 babies have been placed on their register. Babies are weighed and advice given on diet and general health. The local sanitary authority have control over the working of the institution. There are vast possibilities ahead

of work on these lines properly organized, not only for infants, but for children under school age. Seeing also the relatively high death-rate due to malformations and premature births, some effort might be made to give information and advice to expectant mothers. When more peaceful times are upon us, important branches of work like these may well be entered upon.

Appended is the Annual Report of Mr. George Jackson, the Sanitary Inspector.

W. BARON COCKILL,
Medical Officer of Health.

Kendal.

March, 1915.

ANNUAL REPORT OF THE SANITARY INSPECTOR.

To the Mayor, Aldermen and Councillors of the Borough of Kendal.

GENTLEMEN,

I beg to submit the Annual Report of the work done by the Sanitary Department during the year ending December 31st, 1914.

ADMINISTRATION OF THE PUBLIC HEALTH ACTS.

The following is a summary of the nuisances and other breaches of the Public Health Acts and Bye-laws in force in the Borough of Kendal which were discovered :—

DRAINAGE AND PAVEMENT OF YARDS.

Defective Drains	..	..	..	..	..	..	..	13
Choked Drains	..	..	..	..	..	..	..	15
Defective Gullies	..	..	..	..	..	..	..	5
Defective Pavement of Yards	..	..	..	..	..	..	..	16
Yards requiring Cleansing	..	..	..	..	..	..	..	4

DWELLINGS.

Houses requiring cleansing and limewashing	..	..	..	..	..	..	..	5
Bedrooms insufficiently lighted or ventilated	..	..	..	..	..	..	..	57
Living rooms	..	..	..	..	..	..	..	21
Pantries or sculleries insufficiently lighted or ventilated	..	..	..	..	..	..	..	9
Inside W.C.'s	..	..	..	..	..	..	..	4
Houses overcrowded	..	..	..	..	..	..	..	4
,, with defective floors	..	..	..	..	..	..	..	7
,, ,, ,, roofs	..	..	..	..	..	..	..	9
,, ,, ,, or damp walls	..	..	..	..	..	..	..	20
,, ,, ,, sink or sink waste	..	..	..	..	..	..	..	22
,, ,, ,, eaves or downspouts	..	..	..	..	..	..	..	20
,, ,, ,, insufficient water supply	..	..	..	..	..	..	..	35

WATER CLOSETS, ETC.

Defective water closets	..	..	..	..	..	..	..	14
,, trough or tipper closets	..	..	..	..	..	..	..	6
,, soil or ventilating pipes	..	..	..	..	..	..	..	5
Insufficient W.C. accommodation	..	..	..	..	..	..	..	3
W.C. with insufficient water supply	..	..	..	..	..	..	..	10
W.C.'s requiring cleansing	..	..	..	..	..	..	..	9

PRIVIES, ASHPITS AND ASHBINS.

Defective privies	..	..	..	..	..	..	..	19
,, ashpits	..	..	..	..	..	..	..	5
,, ashbins	..	..	..	..	..	..	..	66

FACTORIES AND WORKSHOPS.

Insufficient sanitary accommodation	..	..	..	..	..	..	..	4
Unsuitable or defective	..	..	..	..	..	..	..	1

VARIOUS.

Poultry kept so as to be a nuisance	..	..	..	..	..	2
Cowsheds requiring lime-washing	..	..	..	..	..	11
Stables	..	..	..	..	..	3
Accumulation of offensive refuse	..	..	..	..	..	12
Smoke nuisances	..	..	..	..	..	2
Total						438

It was not necessary in any case to take proceedings before the Magistrates.

INFECTIOUS DISEASES AND DISINFECTION.

Enquiries were made into 96 cases of infectious disease (including phthisis) and 25 cases were removed to the Borough Sanatorium.

105 rooms in 64 houses, in which cases of infectious disease had occurred, were disinfected by fumigation with formalin vapour.

Enquiry is made into every notified case of phthisis or other tubercular disease.

The primary enquiries are made by the sanitary Inspector and any insanitary condition of the dwelling or overcrowding noted. A record is kept of each case and they are subsequently visited at intervals by the Health Visitor. In cases where it is obvious that the patient is alive to the necessity of taking proper precautions to prevent the spread of disease, no further visits are paid. After the return of a patient from the Westmorland Consumption Sanatorium at Meathop the visits of the Health Visitor are still continued and in almost every case looked forward to by the patient.

Disinfectants were supplied free to all houses where cases of infectious disease had occurred.

Whenever a case is removed to Meathop or into another house, or a patient dies at home, the bedroom is disinfected and the bedding taken away for steam disinfection.

The steam disinfector was used on 130 days during the year.

SANATORIUM.

The Sanatorium has been maintained in efficient order and further improvements effected.

The slow combustion stoves in the Scarlet Fever and Diphtheria blocks have been taken out and all the wards are now heated by means of hot water radiators. This has proved to be a much more cleanly method of heating and is a saving of labour and fuel.

102 patients were received into the Sanatorium during the year and the Ambulance was out on 78 occasions.

The cost of maintenance of staff and patients for each month of the year is shewn in the following table :—

Month.	No. of days Patients and Staff.	Cost per head per day.
January	895	6 $\frac{3}{4}$ d.
February	957	6 $\frac{1}{2}$ d.
March	1027	6 $\frac{1}{2}$ d.
April	736	6 $\frac{1}{4}$ d.
May	654	6d.
June	514	6d.
July	520	7d.
August	447	8 $\frac{1}{4}$ d.
September ..	360	8 $\frac{1}{4}$ d.
October	417	7 $\frac{1}{2}$ d.
November ..	493	7d.
December ..	674	10 $\frac{1}{2}$ d.

HOUSING OF THE WORKING CLASSES ACT.

New Dwellings.

At the Council Meeting held in January tenders amounting to £4308 15s. 9d. for the erection of houses 24 at Two Stiles Field were accepted, and it was resolved that application be made to the Local Government Board for leave to borrow the sum of £4737 for the acquisition of land and the erection of dwelling-houses for the working classes under Part III. of the Housing of the Working Classes Act, 1890, as amended by the Acts of 1900, 1903 and 1909 for the following periods:—

For the purchase of freehold land ..	£160	Repayable over a period of 80 years.
For the erection of dwellings	4309	Repayable over a period of 60 years.
For the construction of sewers ..	79	Repayable over a period of 30 years.
For the first formation of streets ..	189	Repayable over a period of 20 years.

Total	£4737
-------------	-------

The sanction of the Board to borrow the above amount was received in February. About the same time the contractor for the walling withdrew his tender and the Borough Surveyor revised the specification and obtained fresh tenders. Other contractors afterwards withdrew, and finally contracts were entered into in June for the erection of 24 dwellings.

At the end of the year only four were approaching completion.

During the year 11 new houses erected by private enterprise were certified for occupation by the Borough Surveyor.

Below are given particulars of the old property dealt with under the Housing Acts :—

Six houses in Jameson's Place were closed by Order in April, 1913, and Demolition Orders were made in May, 1914. The owners appealed to the Local Government Board against the Demolition Orders. A scheme for the improvement of the area was afterwards submitted to and approved by the Health Committee.

During the progress of the work the enquiry into the appeal was heard by Mr. W. H. Collin, when the owners withdrew their appeal with regard to three houses and asked that the Orders with regard to the other three might be varied. Four houses were actually demolished (one of which was not condemned) and two joined on to existing cottages. When the work is completed there will be five cottages on the site where there were previously eleven.

Five dilapidated cottages in Captain French Lane which were closed by Order in April, 1912, were reconstructed into two good cottages with three bedrooms each.

Three cottages also in Captain French Lane, which were below street level and had low ceilings, were dealt with under Section 15 of the Housing Act and were reconstructed, the floors and ceilings being raised.

Three dilapidated cottages in Yard 126, Stricklandgate, which were closed by Order in April, 1913, were reconstructed, the floors and ceilings being raised to 8 feet in height, the roof reslated and new windows provided.

Two cottages, 12 and 14, Far Cross Bank W., which were closed by Order in November, 1913, had the kitchen floors lowered, the bedroom ceilings raised to 8 feet and new windows provided.

The four cottages in Yard 36, Highgate, which were closed by Order in November, 1911, still remain standing, but the owner was given notice in December that unless these were pulled down to such a level as to give the cottages on the opposite side of the yard an angle of light of 45 degrees, these cottages would also be condemned.

A back-to-back cottage in Captain French Lane was closed by Order and as this will probably be used for trade purposes no further steps will be taken.

Two cottages in the Church Walk which were below ground level and had low ceilings and no through ventilation were dealt with under Section 15. These cottages were reconstructed and an obstructive building at the rear demolished, towards the cost of which the Corporation paid £10.

Five cottages in Redmaynes Yard, Stricklandgate, were dealt with, three under Section 15 and two by Closing Order. The three were re-roofed and new windows provided. One of the two closed by Order had the bedroom ceilings raised and new windows provided. Nothing further was

done with regard to the other cottage, as the necessary alterations are still under consideration.

Two cottages in Yard 129, Stricklandgate, were closed by Order. One of these was demolished and the other converted into a washhouse. A cottage in Yard 168, Kirkland, in a congested situation, was closed by Order and this has since been converted into a wash house.

Two cottages in Woolpack Yard were dealt with under Section 15, and as the cottages remain unoccupied no further steps will be taken.

No. 16, Union Street, was dealt with under Section 15 and was thoroughly overhauled and repaired.

No. 9, Bridge Street, was represented by the Medical Officer as unfit for habitation and was altered by the owners without any notice or Closing Order being issued.

Eight dilapidated cottages in Captain French Lane were closed by Order in September. Nothing has yet been done to remedy these defects and the houses are now all occupied.

Four cottages at the top of Old Shambles were closed by Order in October and a cottage behind them was reported by the Medical Officer as an obstructive building. The question of the obstructive building is still under consideration.

A block of five houses in Beast Banks were represented as unfit for habitation in December and Closing Orders will be issued in due course. Many other houses with minor defects were dealt with, either under Section 15 of the Housing Act, or under the Public Health Acts. Generally speaking the defects found were dampness of walls caused by houses being below ground level, low ceilings and insufficient lighting and ventilation.

There is still a great need for houses for the working classes, as at the end of December there were less than a dozen houses to let at rents under 4/- per week, and of these the majority were only in a passable state of repair.

During the ten years 1905-14, 120 cottages let at rents less than 4/- per week have been demolished, converted to other purposes, or have been condemned and not put into habitable condition again. Very few cottages, if any, have been built during this period to meet the requirements of the class of tenant dispossessed.

The following is a summary of Work done under the Housing Acts :—

	Number.
Dwelling houses inspected under and for the purposes of the	
Section	106
Dwelling-houses which were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	44
Dwelling-houses in respect of which representations were made to the Local Authority with a view to the making of Closing Orders	24

Dwelling-houses in respect of which Closing Orders were made by the Local Authority	23
Dwelling-houses the defects in which were remedied without the making of Closing Orders	19
Dwelling-houses which, after the making of Closing Orders, were made fit for human habitation (including Orders made in previous year)	8
Demolition Orders made	6
Dwelling-houses demolished (by owner)	5
Dwelling-houses demolished by owner without Closing Order ..	5
Notices under Section 15 (4), H. and T. P. Act	15
Notices under P. H. A. to remedy defects found in houses inspected under H. and T. P. Act	24
Obstructive buildings reported	2
„ „ demolished	1

OVERCROWDING.

A great amount of time has been devoted to dealing with overcrowding. Most of the cases dealt with were found whilst engaged in housing inspection.

The working classes generally do not seem to recognize that overcrowding is a danger to their health and one of the greatest allies of consumption. They are quite ready to quote instances of certain persons who brought up large families in small cottages and conveniently forget those who unfortunately died. Even when there is plenty of bedroom accommodation some of them seem to prefer crowding into one or two rooms. Of the houses inspected under the Housing Regulations 86 were occupied, and of these 43, or just 50 per cent., were over crowded to some extent. Out of 86 occupied houses in 1913, 64 per cent. were overcrowded, so that there is an improvement, but at the same time 50 per cent. is far too high a figure, and this might be reduced considerably by making better use of the accommodation existing. 300 cubic feet of air-space per head for each adult or child is taken as a minimum and when the amount fell below this figure the house was said to be overcrowded.

Below are given particulars of the 86 houses inspected :—

	No. inspected.	No. overcrowded.
Houses let at 1/6 to 2/- per week ..	19	9
„ 2/- to 2/6 „ ..	13	9
„ 2/6 to 3/- „ ..	23	11
„ 3/- to 4/- „ ..	25	14
„ 4/- to 5/- „ ..	5	1
„ over 5/- „ ..	1	0
	—	—
	86	43
	—	—

No. of one	bedroomed houses overcrowded	..	..	..	..	5
„	two	„	„	..	..	25
„	three	„	„	..	..	9
„	four	„	„	..	..	4
						—
						43
						—
No. of houses overcrowded in one room		..	..	..	..	28
„	„	two rooms		..	..	14
„	„	three „	..	..	..	1
						—
						43
						—

FACTORIES AND WORKSHOPS.

(1) *Inspection.*

						Inspections.	Notices.
Factories	..	..	..	..	..	51	6
Workshops	..	..	..	..	..	467	1
Workplaces	..	..	..	..	..	40	0
						—	—
Total	..	..	..	..	..	558	7
						—	—

(2) *Defects Found.*

Insufficient Sanitary accommodation	..	..	..	..	..	2
Unsuitable or defective sanitary accommodation	..	..	..	..	..	1
No separate accommodation for sexes	..	..	..	..	..	1
Other nuisances	..	..	..	..	..	2
Bakehouse requiring limewashing	..	..	..	..	..	1
						—
Total	..	..	..	..	..	7
						—

(3) *General.*

Workshops on Register	..	..	..	..	..	154
Underground Bakehouses	..	..	..	..	..	2
Defects notified by H.M. Inspector	..	..	..	..	..	3

Section 22 of the Public Health Act Amendment Act, 1890, is in force in the Borough, and the standard of sufficiency and suitability of sanitary accommodation which has been adopted is that set out in the Sanitary Accommodation Order of February, 1903.

Bye-laws with respect to the provision of means of escape in case of fire in Factories and Workshops in which less than 40 persons are employed have been adopted.

SHOPS ACT.

No Closing Orders fixing the hours on the several days of the week at which shops shall be closed have been made.

Thursday remains the day generally chosen for the weekly half-holiday. An application for exemption from the weekly half-holiday closing was received from the Agricultural Implement makers, but was not granted. A similar application from firework dealers was granted.

732 visits of inspection were paid to shops during the year.

CANAL BOATS.

31 visits were made to 18 Canal Boats which came within the district of the Authority during the year. No infringements of the Acts or Regulations were discovered.

The boats inspected were generally in good condition, and having regard to the fact that coal is the principal material carried kept in a cleanly state.

Children were carried on 8 of the boats inspected.

No cases of infectious diseases were notified or discovered on any boat.

There are no boats on the register of the Local Authority, now in use.

DAIRIES, COWSHEDS AND MILKSHOPS.

No. of Purveyors of Milk on Register, 1913	47
No. of Purveyors of Milk Registered, 1914	3
	—
	50
No. discontinued selling Milk	4
	—
Total	46
	—

No. of Cowsheds on Register, 1913 12

During the year 110 visits were paid to cowsheds and dairies within the Borough.

11 notices to cleanse and whitewash cowsheds were served and all were duly complied with.

Mr. Rimmer, M.R.C.V.S., still continued to act as Veterinary Inspector and examined all dairy cows within the Borough four times a year for the detection of tuberculosis. One suspected case was discovered and dealt with under the Tuberculosis Order, 1913.

The long promised Milk and Dairies Act has at last been passed and comes into force on October 1st, 1915.

The system of licensing instead of registering, which was hoped for, has not been embodied in the Act, and unless the Regulations which the Local Government Board have power to make are very stringent a great improvement cannot be expected.

TUBERCULOSIS ORDERS. 1913 AND 1914.

Mr. Rimmer continued to act as Veterinary Inspector under the Tuberculosis Order and visited Cowsheds within the Borough when required and the Auction Mart on various dates during the year. In June the Order of 1913 was revoked and the Tuberculosis Order of 1914 came into force.

Under this Order the compensation to be paid to the owner of any animal slaughtered has to be based upon the value of the animal in the open market in its actual condition, and not the sum the animal would be worth if it were free from disease or suspicious symptoms. In August the operations of the Order were suspended by the Board of Agriculture until further notice.

Only one case of suspected tuberculosis of the udder was discovered during the year. This case was at a milk farm within the Borough. The animal was isolated and a bacteriological examination of the milk was made, which showed the presence of pus but not tubercle bacilli. The farmer was given notice not to use the milk from this cow, which was afterwards fattened and slaughtered.

SALE OF FOOD AND DRUGS.

Public Analyst—MR. R. HELLON, PH.D., F.I.C.

No. of samples taken	..	..	..	..	..	..	49
Formal samples taken	..	..	..	..	..	..	28
Informal samples taken	..	..	..	..	..	..	21
No. submitted to Public Analyst	..	..	..	..	..	..	49
No. reported not genuine	..	..	..	..	..	..	5

Article & Identification Number.	No. of Samples.		Result of Analysis.	Legal Proceedings.	Remarks.
Milk (3) ..	One	..	Milk, fat 2.49. Non-fatty solids, 7.38	Fined £10 & 31/- costs	Second offence within a year. <i>Vide</i> " appeal to cow " sample No. 16
Milk (16)	One	..	Genuine. Milk fat, 3.02. Non-fatty solids, 8.62	.. .. .	" Appeal to cow " sample. <i>Vide</i> No. 3 above
Milk (8)	One	..	Milk fat, 2.41. Non-fatty solids, 9.40	Fined 10/- & 10/- costs	<i>Vide</i> sample No. 17 taken in course of deliv- ery to check No. 8
Milk (17)	One	..	Genuine. Milk fat, 3.52. Non-fatty solids, 8.98	.. .. .	Sample taken in course of deliv- ery to check No. 8 above
Milk (20)	One	..	Milk fat, 2.59. Non-fatty solids, 8.76	Fined 42/- includ- ing costs	
Milk (22)	One	..	Milk-fat, 2.80. Non-fatty solids, 8.23	Dismissed on pay- ment of 15/- costs	
Milk (25)	One	..	Milk fat, 2.70. Non-fatty solids, 9.10	None .. .	Sample obtained small general shop. Analyst reported " De- composition hav- ing commenced when sample reached me— not sufficiently trustworthy to be made a basis of prosecution." Vendor has dis- continued sale of milk.
Milk ..	Twenty-six		Genuine .. .. .	.. .. .	18 formal and 8 informal. For amount of milk fat in each, see separate table
Butter ..	Nine	..	Genuine .. .. .	.. .. .	All informal samples
Margarine (14)	One	..	Genuine .. .. .	.. .. .	Delivered in plain wrapper. Vendor warned.
Lard ..	One	..	Genuine .. .. .	.. .. .	Informal sample
Rum ..	Three	..	Genuine .. .. .	.. .. .	Formal samples
Cream of Tartar	One	..	Genuine .. .. .	.. .. .	Informal sample
Ground Almonds	One	..	Genuine .. .. .	.. .. .	Informal sample

A number of informal samples were taken and tested by means of the centrifuge. By this method a rough determination of the amount of milk fat present can be arrived at.

The 28 genuine samples of milk had the percentage of milk fat and non-fatty solids shewn in the table below :—

No. of sample.	Milk fat.	Non-fatty solids.	Month.
1	3.70	8.90	March
2	3.50	9.00	March
4	3.10	8.80	March
5	3.30	8.70	March
6	3.40	8.90	March
7	3.20	8.70	March
16	3.02	8.62	March
17	3.52	8.98	March
18	3.10	8.97	March
19	4.70	8.90	April
21	3.00	9.00	May
23	3.40	8.80	September
24	3.70	9.10	September
26	4.30	9.60	September
27	3.66	8.40	September
28	3.90	9.00	September
29	3.50	9.60	September
30	3.50	8.70	September
31	4.10	8.80	September
32	3.90	9.00	September
33	3.10	8.80	September
34	3.70	9.00	September
44	3.40	9.00	December
45	3.70	9.10	December
46	3.70	8.50	December
47	3.90	8.90	December
48	3.60	9.10	December
49	3.70	8.50	December
Average	3.58	8.87	—

Taking the whole of the 33 milk samples, genuine and non-genuine, the average percentages were, milk-fat, 3.43 ; and non-fatty solids, 8.84. The Sale of Milk Regulations, 1901, made by the Board of Agriculture,

provide that where a sample of milk contains less than 3 per cent. of milk fat or less than 8.5 per cent. of non-fatty solids, it shall be presumed until the contrary be proved that the milk is not genuine. In the 28 samples the average amount of milk fat is 19 per cent. and the average amount of non-fatty solids is 4.3 per cent. above the minimum.

In the 33 samples, genuine and non-genuine, the average amount of milk fat is 14 per cent. and the average amount of non-fatty solids is 4 per cent. above this minimum.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

1. *Milk and Cream not sold as preserved Cream.*

	Number of samples examined for the presence of a preservative.	Number in which a preservative was reported to be present.
Milk ..	33	None.
Cream ..	0	None.

No samples of cream sold as preserved cream were taken.

SLAUGHTER HOUSE AND MEAT INSPECTION.

During the past year the Sanitary Sub-Committee have had under consideration the question of remodelling and modernizing the slaughter-house. At the present time there is no cooling-room for beast and sheep carcasses and there is a shortage of sheep-pens and other necessary adjuncts. The arrangements for scalding and hanging pigs are also inadequate.

The proposal is to construct a cooling-room for beast and sheep carcasses out of two of the present beast slaughter-houses, and to extend the remaining beast slaughter-house and take in a portion of the shippens and yard space so as to form one large beast slaughter hall about 40 feet by 24 feet. The cooling room would then be between the beast and sheep slaughter-houses with access from each. The present hoisting arrangements would be superseded by modern hoists and runways. The sheep slaughter-house, at present dark and badly ventilated, would have the roof raised and the lighting and ventilation improved. All the old buildings in the centre of the yard would be cleared away and new gut-scraping shop, lairages, hide and skin store and office erected on land to be purchased on the south of the slaughter-house site. The arrangements for removing garbage away from proximity to cooling carcasses would consist of a tramway along the canal side, along which a bogey would run and deposit the garbage direct into covered tumbler carts near the present sludge depot.

In the pig slaughter-house a steam boiler and scalding tank would be provided and modern runways into the cooling-room constructed. Many different schemes have been considered and it is thought that the one described will be the most efficient and economical, having regard to the utilizing of the existing building as far as possible. The estimated cost is about £1,000 and the charges on this might be recouped part'y by the alteration of the charges for slaughtering. At present the charges are the lowest in the country, being 1/- for a beast, 3d. for a pig or calf and 1d. for a sheep, and these prices include 60 hours free lairage.

By increasing the slaughtering fees for pigs to 6d. and sheep to 2d. the annual revenue would be increased by £53.

209 visits of inspection were made to the Public Slaughter-house. The inspections were made as far as possible at the time of slaughtering. Meat slaughtered outside the Borough was sold from butchers' carts in the street and was inspected from time to time.

The carcase of a pig, slaughtered at a farm outside the Borough and sent to a pork butcher's shop for sale was examined and found to be badly affected with tuberculosis. The carcase was seized and afterwards condemned by a Magistrate. Proceedings were taken against the farmer and he was fined £12 10s. 0d. and £2 10s. 6d. costs. This is the first case of exposing diseased meat for sale which has been brought before the Bench in Kendal for a number of years, and it is to be hoped that the smart penalty inflicted will be a deterrent.

The number of animals slaughtered at the Public Slaughter-House during the past three years is given below :—

		Beasts.	Sheep.	Pigs.	Calves.	Total.
1912	..	907	7,681	1,347	58	9,993
1913	..	1,074	8,336	1,337	64	10,811
1914	..	1,126	7,965	1,389	63	10,543

29 beasts and 2 pigs were found to be affected with tuberculosis in varying degrees and were dealt with as follows :—

	Portion destroyed.				No. of cases.	
	<i>(Beasts).</i>					
Total carcase and viscera	9
Complete viscera	1
Complete viscera and udder	1
Lungs, spleen, stomach and kidneys	1
Lungs, diaphragm and liver	2
Lungs, diaphragm and stomach	2
Lungs, stomach and udder	1
Lungs and diaphragm	4
Liver and stomach	1

	Portion destroyed.					No. of cases.	
	<i>(Beasts.)</i>						
Lungs only	..	..	..	..	..	..	5
Intestines only	..	..	..	..	..	..	1
Udder only	..	..	..	..	..	..	1
	<i>(Pigs.)</i>						
Total carcase	..	..	..	..	..	..	1
Complete viscera	..	..	..	..	..	..	1
						<hr/>	
Total	..	..	..	..	..	..	31
						<hr/>	

Of the 29 beasts affected, 20 were cows and 9 heifers.

The following meat was also destroyed :—

Carcase and viscera of sheep (parturient)	..	..	..	..	..	..	1
„ „ „ (emaciated)	..	..	..	..	..	..	2
„ „ „ (coenurus cerebralis)	..	..	..	..	..	..	1
„ „ „ (injured)	..	..	..	..	..	..	4
Hind quarters and loin of sheep (injured)	..	..	..	..	..	..	1
Fore quarters and Loin	..	..	..	..	..	..	3
Legs	..	..	..	..	..	..	3
Beast's livers affected with flukes	..	..	..	..	..	..	4
„ lungs „ cysts	..	..	..	..	..	..	1
„ heart „ inflammation	..	..	..	..	..	..	1
Sheep's heart and kidneys affected with inflammation	..	..	..	..	..	..	1
„ lungs and liver „ pseudo tuberculosis	..	..	..	..	..	..	1
						<hr/>	
Total	..	..	..	..	..	..	23
						<hr/>	

In one case only was it necessary to obtain a Justices' Order for the destruction of the meat, in all the other cases it was surrendered voluntarily.

Of the 9 tuberculous carcasses destroyed 8 were of animals insured by the Auction Mart Co., and full compensation was paid to the butcher.

All premises where meat was prepared for food have been visited regularly and were generally found to be in a cleanly condition.

OFFENSIVE TRADES.

The following offensive trades are established within the Borough :—

Gut Scraper	..	..	..	..	..	..	1
Tripe Boilers	..	..	..	..	..	..	2
Tallow Melter	..	..	..	..	..	..	1
Leather dresser	..	..	..	..	..	..	1
Fellmonger and Leather Dresser	..	..	..	..	..	..	1

Fellmonger and Fat Extractor	..	..	..	1
Fish Friers	..	..	..	8
Rag and Bone Dealers	..	..	..	3
				—
Total	..	..	..	18
				—

84 visits of inspection were made to the above premises.

Bye-laws with respect to offensive trades have been made under Section 112 of the P. H. A., 1875, as amended by Section 51 of the P. H. A. A., 1907, and are now in force.

POLLUTION OF RIVERS AND STREAMS.

No complaint has been received, nor has any pollution of rivers and streams within the district been observed.

The Rivers Pollution Prevention Act is administered by the County Council, who have their own Inspector.

SCHOOLS.

All sanitary conveniences at all the schools are in a satisfactory condition. The closets are all of the water carriage type, flushing automatically and under the care of the school caretakers. Water from the Corporation mains is laid to all the schools.

HOUSE REFUSE REMOVAL.

Ashpits.

No. of Ashpits Emptied.	No of Loads Removed.	No. of Loads deposited at Parkside.	Limekilns
1,375	842	679	163

Ashbin and Shop Refuse.

No. of Loads.	No. of Loads deposited at Parkside	Limekilns.
2,717	2,408	309
Total number of loads removed	..	3,559
Average weight per load (estimated)	..	25 cwts.
Weight of refuse removed	..	4,448 tons.
Cost per ton for removal (approximate)	..	2/6
Cost per ton for disposal	..	5d.
No. of ashpits emptied weekly	..	6
No. of ashpits emptied fortnightly	..	5
No. of ashpits emptied monthly	..	9
No. of ashpits emptied 4 times a year	..	235
		—
Total No. of ashpits	..	255
		—

No. of ashpits abolished during the year	..	17
No. of ashbins in use (approximate)	..	1,870

The work of the refuse collection and disposal is still carried out by the Council's own employees, seven men and three horses being constantly employed.

All refuse is disposed of by tipping on land at Parkside and the limekilns.

Many complaints were received about the nuisance caused by paper blown into the roads in windy weather, and it is proposed to install a small portable destructor for burning waste paper.

All refuse from retail shops and offices is collected weekly, and from fish shops daily, free of charge.

Although the above class of refuse cannot by any stretch of the imagination be called house refuse, and therefore to be removed free of cost by the Authority, the Health Committee, recognizing that any accumulation of refuse is likely to become a nuisance, have agreed to remove the same without any charge.

EXCREMENT DISPOSAL.

Privies.

No action has been taken under Sections 39-42 of the Public Health Acts Amendment Act, 1907, with regard to the conversion of privies into water closets.

The number of privies and pail closets converted into water closets during the past 10 years is given below:—

					Privies.		Pail Closets.
1905	..	..	..	..	26	..	29
1906	..	..	..	..	33	..	17
1907	..	..	..	..	20	..	5
1908	..	..	..	..	21	..	5
1909	..	..	..	..	8	..	0
1910	..	..	..	..	21	..	0
1911	..	..	..	..	21	..	5
1912	..	..	..	..	5	..	1
1913	..	..	..	..	11	..	5
1914	..	..	..	..	3	..	0
					—		—
	Total	..	..	..	153	..	67
					—		—

There are still remaining:—

Privies where there is no other accommodation	..	32
Privies where there is also a W.C.	.. ..	9
Privies outside the sewerage area, but cleansed by Council		4
Pail closets	.. .. ..	22

WATER CARRIAGE.

The whole of the district is well sewered, there being only about 40 houses outside the sewerage area which discharge their sewerage on to land or into cesspools, which are emptied by the Council on demand.

The following is a summary of the water closets in use in the district :—

Washdown and washout closets	3,080
Automatic closets (tipper and syphonic) flushed with clean water	186
Tippers flushed with slop water	12
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Total water closets	3,278
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BILLETING.

During the latter part of the year troops were billeted at public and private houses within the Borough, about 1,300 being the largest number in residence at any one time. All the billets were inspected to insure cleanliness and to prevent overcrowding.

SUMMARY OF INSPECTIONS MADE.

Inspections to dwellings and outbuildings	4,392
Inspections to reconstruction of drains	381
Inspections to Factories and Workshops	558
Inspections to Shops (Shops Act)	732
Inspections to Slaughter-Houses	209
Inspections to Offensive Trades	84
Inspections to Common Lodging Houses	92
Inspections to Canal Boats	31
Inspections to Dairies and Cowsheds	110
No. of drains tested	14
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Total	6,603
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GEO. JACKSON,
Sanitary Inspector.

20th January, 1915.